
LABORATORY
OF THE
INLAND REVENUE DEPARTMENT

OTTAWA, CANADA

BULLETIN No. 235

VINEGARS

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OTTAWA, February 17, 1912.

W. J. GERALD, Esq.,
Deputy Minister of Inland Revenue.

SIR,—I have the honour to report upon 151 samples of vinegars, collected throughout the Dominion in October of last year. This collection may be regarded as supplementary to that of October, 1910, reported in Bulletin No. 223; the greater part of which was destroyed by the fire of January, 1911.

These collections were made with the special object of ascertaining whether or not certain proposed definitions of and standards for vinegar could be enforced to the advantage of the consumer. Our inspectors were particularly instructed to note the specific name under which vinegar is sold. So far as this report goes, it shows that so-called Wine or White Wine vinegars are most in demand, 61 samples, or 40 per cent of the collection being sold as Wine vinegar; 46 samples constituting 30 per cent of the collection are sold as malt vinegars, and 23 samples (16 per cent) as Cider vinegar.

Twenty-one (21) samples are sold simply as vinegar, without any specific claim to origin or character.

These three classes of vinegars have come to be so generally recognized, that it appears to be necessary, in the consumers' interest, to define them accurately and distinctively, if this be possible.

Vinegar is at present defined in the fifth schedule to the Adulteration Act as follows:—'A more or less coloured liquid consisting essentially of impure, dilute acetic acid, obtained by the oxidation of wine, beer, cider or other alcoholic liquid.

This conception of vinegar has evident regard to the article as a fermentation product from wine (*Vin-Aigre*), or other alcohol containing liquid. The word *impure* is not intended to convey any idea of an objectionable character, but is merely a way of stating that the acetic acid is accompanied by other matters, legitimately present, produced co-ordinately with the acetic acid by the methods described. As a matter of fact, it is to these associated substances, or congeners, that the distinctive flavour of vinegar is due. There has grown up, in recent years, a demand for the

recognition of a diluted acetic acid, artificially flavoured, as vinegar. This modern innovation is clearly a result of the cheap production of acetic acid by a method which does not involve fermentation with *mycoderma aceti*. Acetic acid is now made commercially as a product of the destructive distillation of wood. Since acetic acid is the most important component of vinegar, why may not refined acetic acid, no matter what its origin, be employed in vinegar manufacture? If rectified spirits may be used in the manufacture of whiskey, there would seem to be no valid reason for condemning refined acetic acid as a basis for vinegar. Just as the German, or Quick vinegar process was, in 1823, looked upon as an improvement upon the older methods of spontaneous souring, so may not the obtaining of acetic acid from other sources than alcohol be regarded as a further improvement in vinegar production?

In the latest (Eleventh) edition of the Encyclopædia Britannica, vinegar is defined as 'A dilute solution of impure acetic acid, prepared by the acetous fermentation of alcohol, or of such substances, which yield alcohol when suitably decomposed (ordinary vinegar), or obtained from the products resulting on the dry distillation of wood (wood vinegar).' The following explanation is given: 'Ordinary or table vinegars, which contain in addition to acetic acid, small quantities of alcohol, higher acids such as tartaric and succinic, various esters, albuminous substances, &c., are produced solely by acetous fermentation, wood vinegar being only employed in certain arts.' 'Wood vinegar is not used in cooking, as it lacks those substances which render ordinary vinegar palatable.'

So far as ordinary or table vinegars are concerned, this definition is in harmony with the present Canadian standards for vinegar.

If, however, the only difference between pure dilute acetic acid, and true vinegar, is the absence of flavouring matter in the former, would it not be possible to make a satisfactory artificial vinegar, fulfilling every requisite of healthfulness, by adding to, pure dilute acetic acid, the necessary flavours?

That the question asked is of importance appears from the facts that (1) the Adulteration Act is not intended to handicap the manufacture and sale of cheap foods so long as these are wholesome; (2) it is well known that much of the vinegar on the market is actually made in whole or part, from acetic acid, without acknowledgement of the fact; (3) it is difficult, or even impossible, by chemical analysis to detect small additions of acetic acid to fermentation vinegars. Hence the necessity of establishing definite limits of variation for the different species of vinegar found in the market.

CIDER VINEGAR.

Standards have been fixed for this variety of vinegar by the Department of Agriculture at Washington, as follows:—

- a. It is levorotatory.
- b. It contains not less than 4 grams acetic acid in 100cc.
- c. It contains not less than 1.6 grams apple solids in 100cc.
- d. Reducing sugars do not exceed 50 per cent of the weight of these solids.
- e. Apple ash not less than 0.25 gram per 100cc.
- f. Phosphoric acid (P_2O_5) not less than 10 mgr. in water soluble ash from 100cc. vinegar.
- g. Alkalinity of soluble ash from 100cc., not less than 30cc. deci-normal.

Although I am not aware that the datum has been formally established, it would appear from the findings in U.S.A. *vs.* One hundred barrels vinegar (Notice of Judgment No. 1159) that Cider vinegar should have a glycerin content between 0.24 and 0.46 per 100cc.

Qualitative tests, such as the character of the residual solids and the ash, with regard to potash content, colour, viscosity, odour, solubility, &c., are more or less characteristic. Cider vinegars also give a decided precipitate with lead acetate.

Twenty-three (23) samples of the present collection are sold as Cider vinegars. The results of analysis, interpreted by the above quoted standards, give as follows:—

	Samples.
Genuine Cider vinegar.	8
Artificial Cider vinegar.	10
Doubtful Cider vinegar.	4
Fermenting cider.	1
	—
	23

It is my belief that all genuine Cider vinegars will be found to respond to the above requirements. It is quite possible to prepare surrogates which might meet these standards; but in the present state of our knowledge, they represent the most effective check upon fraudulent imitations.

MALT VINEGAR.

This is defined, for the United States of America, as follows:—

Is the product made by the alcoholic and subsequent acetous fermentation, without distillation of an infusion of barley malt, or cereals whose starch has been converted by malt; is dextro-rotatory, and contains, in 100cc., not less than 4 grammes of acetic acid; not less than 2 grammes of solids, and not less than 0.2 gramme ash. The water soluble ash from 100cc. contains not less than 9 milligrammes of phosphoric acid (P_2O_5), and requires not less than 4cc. of deci-normal acid to neutralize its alkalinity.

Very few analyses of malt vinegars, of undoubted genuineness, are on record. *Hehner* quotes the following (1):—

Seven Samples from Malt Only.

—	Acidity.	Solids.	Ash.	P_2O_5 .	Alkalinity of ash cc N/10.
Maximum.	6.48	4.23	0.47	130	8.4
Minimum.	2.88	1.68	0.22	67	1.6
Mean.	4.23	2.70	0.34	106	2.2

Allen (2) for three samples, from mixed malted and unmalted barley:—

—	Sp. grav.	Acetic acid.	Solids.	Ash.	P_2O_5 .	Alk. N/10.	Nitrogen.	Albuminoids.
No. 1.	1.0170	6.39	2.67	0.34	77	9.7	.099	.624
" 2.	1.0228	5.26	3.96	0.40	93	12.5	.095	.598
" 3.	1.0160	4.86	2.31	0.47	57	.....	.099	.625

These results may be taken to justify in the main, the standards adopted by the U.S.A.; while establishing the facts that (1) Solids may occasionally fall slightly below 2 per cent.; (2) The alkalinity of the soluble ash from 100cc., may occasionally be less than 4cc. N/10.

I have not a sufficient number of analyses of accredited Malt vinegars at command to enable me to feel justified in accepting the above standards, or advising their legal

(1) *The Analyst*, XVI, 82; XVIII, 240.

(2) *The Analyst*, XLX, 15.

adoption in Canada. But nothing known to me regarding Malt vinegars, leads me to think these standards unreasonable. I propose to interpret by them the results of analysis of 46 samples, sold at Malt vinegar, in October last, and reported herein.

In addition to the requirements of the above standards, the annexed tables include the amounts of soluble ash; and of total phosphoric acid; as well as the qualitative determination of chlorides and phosphates, and of the precipitate obtained with lead acetate. These data are believed to possess value in judging the character of the article, inasmuch as Spirit vinegars give but slight precipitates with lead, and only traces of chlorides or sulphates.

By application of the quoted standards, I am able to classify 46 samples sold as Malt vinegar, as follows:—

	Samples.
Genuine.. . . .	24
Doubtful.. . . .	5
Imitation.. . . .	17
	—
Total.. . . .	46

Twenty-four samples are judged to be genuine from the fact that they answer to all but one or two of the constants suggested as applicable to Malt vinegar. It is important to ascertain where and to what extent, deviation from these constants has been found in samples which, upon the whole results of analysis, are judged to be genuine. In the following synopsis of the 24 samples, I have indicated the constants which fail to be met by each sample:—

No. 46724	Solids	Sol	P_2O_5	
" 46725				
" 46729	Alkalinity	Sol	P_2O_5	
" 46094	"	"	"	
" 46099				Lead Precipitate.
" 1395				
" 49026				
" 49029	Alkalinity	Sol	P_2O_5	
" 47833	"	"	"	
" 44010	"	"	"	
" 38216	"	"	"	
" 38217				
" 38218	Solids			
" 38221	Alkalinity	Sol	P_2O_5	
" 38223	Solids			
" 38224				
" 47631	Solids			
" 47632	Alkalinity	Sol	P_2O_5	Lead Precipitate.
" 47634		"	"	
" 47635				
" 47637				
" 47639	Solids		P_2O_5	
" 47640	"	"	"	
" 49023	Solids	"		

Of 24 samples of Malt Vinegar believed to be genuine,
Solids are less than 2 per cent in 6 samples.
Alkalinity of sol. ash, less than 4cc. N/10 in 10 samples.
Soluble P_2O_5 , less than 9 mgr. in 11 samples.
Lead precipitate not copious in 2 samples.

Only 7 samples meet every requirement of the proposed standards.

These results indicate that the standards for soluble phosphoric acid and for alkalinity of soluble ash are probably too high; that solids may be slightly less than 2 per cent in Malt vinegar, and that a copious lead precipitate may not invariably be obtained.

The solids actually present in 6 samples containing less than 2 per cent are 1.720; 1.712; 1.748; 1.810; 1.830; 1.530—mean value, 1.795 per cent.

The alkalinity of soluble ash in 10 samples showing less than 4cc. N/10 per 100cc. is as follows:—

0.8, 1.4, 1.0, 1.2, 1.4, 2.4, 1.2, 1.0, 1.2, 2.8, which would imply that the alkalinity number is of much less importance in defining Malt vinegar than has been supposed. In several cases this number has greatly exceeded 4cc. N/10, as in No. 46723 (10.4); 46099 (9.6); 1395 (9.8); 38218 (10.0); 47639 (10.0).

WINE VINEGARS.

As the name vinegar implies, all vinegars were originally Wine vinegars. Vinegar produced by the souring of wine is still the most important variety of this article in wine growing countries. It may be made from either red or white wine, and is known as Red Wine vinegar or White Wine vinegar respectively. The latter variety is usually preferred.

The subjoined results of analysis for genuine Wine vinegars are from the following sources:

- I. König-Zusammensetzung, Band I., S. 1447. Mean results for a large number of samples.
- II. Twenty-two samples, analyzed by the Municipal Laboratory in Paris, quoted by Leach, Food Inspection and Analysis, p. 762.
- III. Red Wine vinegar (Weigmann), Leach, loc. cit.

	I.	II.	III.
Specific Gravity.....	1.0228	1.0175	1.0143
Acetic Acid per cent.....	5.07	7.38	7.79
Extract (Solids).....	4.03	1.93	0.863
Alcohol.....	1.80		1.19
Bitartrate of Potash.....	0.184	0.170	0.057
Sugars.....	2.09	0.220	
Glycerin.....	0.507		0.141
Ash.....	0.391	0.320	0.118
Phosphoric Acid.....	0.053		0.012

The Second International Congress for the Repression of Frauds, held in Paris, October, 1909, defined Wine vinegar as exclusively the product of the acetous fermentation of wine.

It is quite evident that Wine vinegar should not be confounded with Spirit vinegar. This last is the product of the acetous fermentation of diluted alcohol; and should be distinctively named. It appears, from the present report, that most of the so-called White Wine vinegar sold in Canada is really Spirit vinegar, being made by the acetious fermentation of distilled spirit. This is evident from the low solids and ash, as well as from other constants. The results of examination of 61 samples sold as Wine vinegar may be summarized thus:—

	Samples.
Genuine Wine vinegar.....	1
Spirit vinegar.....	52
Acetic Acid vinegars.....	6
Samples lost.....	2
	—
	61

As to what should be regarded as constants for Spirit vinegar, we have not sufficiently numerous analyses of the certified article to make a definite ruling. Twelve samples analyzed in the Municipal Laboratory of Paris gave as follows:—

	Sp. Gravity.	Solids.	Ash.	Acidity.
Maximum	1.0131	0.16	.69	7.98
Minimum	1.0082	0.07	.04	4.98
Mean	1.0100	0.35	trace.	6.34

Rothenbach's test for fermented vinegars (*Zeitschrift für Angewandte Chemie*, 1906, 1610) has been applied to these vinegars, with the results given under Iodine test.

Twenty-one (21) samples are sold without specific claim, and simply as vinegar. Of this number 18 are found to be spirit vinegars, 3 of them being apparently fortified by addition of acetic acid. Two are imitation Malt vinegars, and one is evidently made from acetic acid only.

In the absence of standards for the article, I am unable to designate any of the 151 samples herein reported, as adulterated, except in so far as they fail to meet the requirements of the fifth schedule to the Adulteration Act. Even here it is open to question whether a fermented vinegar to which acetic acid has been added, would be held adulterated by the courts. It might still be regarded as essentially a fermentation product. The report is intended to show what vinegar is, as sold in Canada; and to furnish material for the establishing of standards for the article. A scheme of standards was outlined in Bulletin 223 (April, 1911), and it is hoped that the information herein given may enable your Advisory Board to reach conclusions in this matter.

I beg to recommend publication of this report as Bulletin 235.

I have the honour to be, sir,

Your obedient servant,

A. McGL
Ch. Analyst.

BULLETIN No. 235—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of opinion).
				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF NOVA SCOTIA—

1911								
Oct. 25	Vinegar...	46721	National Drug & Chem. Co., Halifax, N.S.	1½ bt..	15	Vendors.....		Sovereign Brand White wine.
" 27	"	46726	Wm. Moore, Halifax, N.S.	1½ "	10	J. E. Gass, Halifax, N.S.	Mfr.....	White wine....
Nov. 17	"	46730	Coleman & Eisner, Dartmouth, N.S.	1½ "	8	M. W. Greaves & Co., Bridge-town.	Nickerson & Hart, Halifax, N.S.	White wine....

DISTRICT OF PRINCE EDWARD ISLAND—

Oct. 16	Vinegar...	46091	Jas. P. Duffy, Charlottetown, P.E.I.	1 qt..	10	C. La Riviere, Bordeaux.		White wine....
" 16	"	46092	John McKenna, Charlottetown, P.E.I.	1 "	15	Hudon Hebert et Cie, Montreal.		"
" 17	"	46095	E. Toombs, Charlottetown, P.E.I.	1 "	15		N. Rathenbury Charlottetown, P.E.I.	"
" 21	"	46097	R. T. Holman, Ltd., Summer-side, P.E.I.	1 "	15	H. J. Heinz & Co., Pittsburg, Pa.		"
" 21	"	46098	Brace McKay & Co., Summer-side, P.E.I.	1 "	20	E. M. Bollman, Bordeaux, France.		"
" 26	"	46100	E. J. Holman & Co., Charlottetown, P.E.I.	1 "	10	McCready & Son, Ltd., St John, N.B.		"

DISTRICT OF NEW BRUNSWICK—

Oct. 14	Vinegar...	45525	James McCauley, St. John.	1 qt..	10	.....	Northrop & Co. St. John, N.B.	White wine....
" 17	"	45527	W. A. Fairweather Co., Ltd., St. John.	1 "	10	Vendors.....		"
Nov. 3	"	45530	F. E. Rose, Stephen, N. B.	1 "	10	Thos. McCready & Son, St. John		"

DISTRICT OF QUEBEC—

Oct. 12	Vinegar...	36984	Cantin & Frere, 271 Rue St. Joseph, Quebec.	1 qt..	20	Heinz, Pittsburg, U.S.	Mfrs	Wine.....
" 13	"	36985	G. Gingras, 268 Rue du Roi, Quebec.	1 "	25	"	J. B. Renaud & Cie.	"
" 13	"	36986	"	1 "	15	Gagnon & Garent	Mfrs.....	"
" 13	"	36989	W. Cantin, 133 rue du Pont Que	"	15	St. Lawrence Vinegar.	J. E. Letourneau.	"
" 19	"	36990	A. Pichette, 176 Rue D'Orchester, Quebec.	1 "	20	"	J. B. Renaud & Cie.	"

VINEGAR (WHITE WINE).

RESULTS OF ANALYSIS.										No. of Sample.	Remarks and Opinion of the Chief Analyst.
Gms. per 100cc.			Chlorides.	Sulphates.	Iodine test for fermented vinegar.	Formic Acid					
Acidity as acetic.	Solids.	Ash.				Mgnes. per 100cc.	Pts. per 1000 of total acid				
R. J. WAUGH, INSPECTOR.											
5.16	0.188	0.043	Heavy trace.	None.....	Clear.....	28.4	5.51	46721	Made from acetic acid, at least in part. Doubtful.		
4.65	0.011	0.002	Slight trace.	"	"	69.7	14.98	46726	Made from acetic acid. Adulterated.		
4.32	0.097	0.015	"	Slight trace.	Ppt.			46730	Spirit vinegar.		
WM. A. WEEKS, INSPECTOR.											
3.66	0.058	0.011	Slight trace.	Slight trace.	Ppt.			46091	Spirit vinegar.		
5.34	0.330	0.080	Large amount.	Medium..	"			46092	"		
3.66	0.146	0.020	Slight trace.	None.....	"			46095	"		
5.40	0.205	0.032	"	Trace.....	Slight ppt.	Trace.....		46097	"		
6.96	0.163	0.015	None.....	None.....	"	18.1	2.60	46098	Made from, or fortified by acetic acid. Doubtful.		
4.71	0.104	0.015	Trace.....	Slight trace.	"			46100	Spirit vinegar.		
J. C. FERGUSON, INSPECTOR.											
3.48	0.070	0.014	Trace.....	None.....	Slight ppt.	None.....		45525	Spirit vinegar.		
7.50	0.178	0.017	"	"	Heavy ppt.	Trace.....		45527	"		
5.19	0.126	0.022	Medium..	"	Medium ppt.	0.6	0.13	45530	"		
F. X. W. E. BELAND, INSPECTOR.											
5.28	0.155	0.032	Trace.....	None.....	Ppt.			36984	Spirit vinegar.		
5.34	0.156	0.032	"	Trace....	"			36985	"		
4.62	0.057	0.018	None.....	None	Clear.....	37.8	8.18	36986	Made from acetic acid. Adulterated.		
5.97	0.391	0.032	"	Trace.....		1.0	0.16	36989	Spirit vinegar.		
7.14	0.178	0.013	Slight trace.	None.....	Ppt.			36990	"		

BULLETIN No. 235—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.		Inspector's Report. (Is not an expression of opinion).
				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF QUEBEC—

Oct. 19	Vinegar.	36991	A. Pichette, 176 Rue Dorchester, Quebec.	1 qt.	15	Wilson, Lytle & Badgerow, Toronto.	Gagnon & Garent, Mfrs.	White Wine
" 19	"	36992	Louis Jobin, 156 Rue Dorchester, Quebec.	1 "	16	St. Lawrence Vinegar.		"

DISTRICT OF ST. HYACINTHE—

" 25	Vinegar.	1390	L. Ed. Choquette, Farnham.	1 qt.	15	Wilson, Lytle & Badgerow, Toronto.		White Wine
" 26	"	1392	Monty frere, Granby.	1 "	10	Heinz, Leamington, Ont.		"
" 26	"	1393	A. C. Gilmore, Waterloo.	1 "	5		Hudon & Orsali, Montreal.	"
" 21	"	1398	E. Marchand, Nicolet.	1 "	5		L. Chaput fils & Co., Montreal.	White Wine. Proof.

DISTRICT OF MONTREAL—

" 17	Vinegar.	40906	Branet & Bray, 1135 St. Lawrence Bldg., Montreal.	1 qt.	15			White Wine
" 17	"	40910	O. Sansregret, Duluth Ave.	50 l "	13	Lion Vinegar Co., Ltd.		"

DISTRICT OF OTTAWA—

Oct. 10	Vinegar	49021	Bowland & McRostie, Carleton Place.	1 qt.	10	Dom. Vinegar Works, Hamilton.		XXX White Wine.
" 12	"	49022	J. K. Whitelaw, Arnprior.	1 "	10	Wilson Lytle & Badgerow, Toronto.		XX " "
" 20	"	49025	J. T. Kearns, Chesterville.	1 "	10	"		White wine 83 grs.

VINEGAR (WHITE WINE).

RESULTS OF ANALYSIS.

Gms. per 100cc.			Chlorides.	Sulphates.	Iodine test for fermented vinegar.	FORMIC ACID.		No. of Sample.	Remarks and Opinion of the Chief Analyst.
Acidity as acetic.	Solids.	Ash.				Mgms. per 100 cc.	Pts. per 1000 of total acid.		

F. X. W. E. BELAND, INSPECTOR.

5 37	0.518	0.038	Trace ...	None.....	.....	Trace ....	.....	36991	Spirit vinegar.
5 13	0.412	0.032	" ..	" .....	.....	0.9	0.17	36992	"

J. C. ROULEAU, INSPECTOR.

4 14	0.093	0.016	Trace ...	Slight trace.	Ppt .....	.....	.....	1390	Spirit vinegar.
5 28	" 215	0.039	Medium..	"	" .....	.....	.....	1392	"
7 29	0.128	0.024	Slight trace.	"	" .....	.....	.....	1393	"
8 01	0.253	0.024	"	None....	" .....	.....	.....	1398	"

J. J. COSTIGAN, INSPECTOR.

7 14	0.197	0.045	None.....	None.....	Ppt	0.5	.....	40906	Spirit vinegar.
7 05	0.185	0.017	"	"	"	0.5	0.07	40910	"

J. A. RICKEY, INSPECTOR.

5 16	0.117	0.022	none. ...	none.	ppt.	trace.....	.....	49021	Spirit vinegar.
4 23	0.077	0.020	slight trace.	slight trace.	" .....	" .....	.....	49022	"
4 71	0.095	0.025	" ..	" ..	" .....	" .....	.....	49025	"

BULLETIN No. 235—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	COST.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report (Is not an expression of opinion.)
				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF KINGSTON—

1911.								
Nov.	1	Vinegar	48537 W. E. Hopkinson, Kingston.	1 qt.	10	Fenwick Hendry Co., Kingston.	White wine.	...
"	1	"	48538 Geo. Gibson, Kingston.	1 "	10	D. B. Murray, Kingston.	"	..
"	1	"	48539 L. W. Murphy, Kingston.	1 "	10	"	"	..
"	1	"	48540 J. Cullen, Kingston.	1 "	10	"	"	..
"	1	"	48541 C. Saunders, Kingston.	1 "	10	Heinz, Toronto.	"	..
"	1	"	48542 C. H. Pickering, Kingston.	1 "	10	Whitby Fruit Vinegar Co.	"	..
"	1	"	48544 E. S. Suddard, Kingston.	1 "	10	D. B. Murray, Kingston.	"	..
"	1	"	48545 D. Couper, Kingston.	1 "	10	"	"	..
"	2	"	48546 D. B. Murray, Kingston.	1 "	10	Vendor.	"	..
"	2	"	48547 Anderson Bros., Kingston.	1 "	1	D. B. Murray, Kingston.	"	..

DISTRICT OF TORONTO—

Oct.	16	Vinegar	47355 Dom. Works, Hamilton.	Vinegar 1 qt.	10	Vendors.	XXX White Wine.	
"	16	"	47356 Imperial & Pickling Co., Ltd., Hamilton	Vinegar 1 "	10	"	"	..
"	19	"	47357 The Wilson Lytle Badgerow Co., Ltd., Toronto.	1 "	10	"	"	..
"	19	"	47359 The Queen City Vinegar Co., Ltd., Toronto.	1 "	10	"	"	..
Nov.	3	"	47384 The Stouffville Cider & Vinegar Co., Ltd., Stouffville.	1 "	10	"	"	..

DISTRICT OF LONDON—

Oct.	16	Vinegar	47804 Chute & Smith, St. Thomas.	1 qt.	10	Unknown	Wine vinegar.	
"	17	"	47822 Clark & Sons, Ridgetown.	1 "	5	S. Allen, Norwich.	White wine vinegar.	
"	19	"	47838 Miller & Wigle, Essex.	1 "	10	Unknown	"	..
"	19	"	47839 A. Raines, Essex	1 "	10	S. Allen, Norwich.	"	..
"	19	"	47841 O. H. Bricker, Essex.	1 "	10	"	"	..
19	19	"	47848 Miller & Wigle, Essex.	1 "	10	Unknown	"	..

VINEGAR (WHITE WINE).

RESULTS OF ANALYSIS.										Remarks and opinion of the Chief Analyst.
Gms. per 100 cc.			Chlorides.	Sulphates.	Iodine test for fermented vinegar.	Formic Acid.		No. of Sample.		
Acidity as Acetic.	Solids.	Ash.				Mgms. in 100 cc.	Parts per 1000 of total acid			
JAS. HOGAN, INSPECTOR.										
										48537 Samples lost.
5.37	0.104	0.018	trace.....	none	ppt.....					48538 Spirit vinegar.
5.07	0.095	0.019	"	slight trace.	"					48539 "
5.22	0.151	0.018	"	trace.....	"					48540 "
5.31	0.145	0.034	"	none.....	"					48541 "
3.18	0.145	0.028	"	trace.....	"					48542 "
5.52	0.176	0.020	"	slight trace.	"					48544 "
6.36	0.088	0.015	"	trace.....	"					48545 "
11.31	0.198	0.017	"	slight trace.	"					48546 " above vine- gar strength in acetic acid.
5.55	0.103	0.020	"	"	"					48547 Spirit vinegar.
H. J. DAGER, INSPECTOR.										
5.25	0.111	0.022	trace.....	slight trace.	slight ppt.	none				47355 Spirit vinegar.
5.34	0.107	0.020	"	"	"	"				47356 "
5.37	0.094	0.019	"	"	"	"				47357 "
5.25	0.117	0.020	"	"	"	none.....				47359 "
5.10	0.127	0.023	"	trace.....	ppt.....	"				47361 "
JNO. TALEOT, INSPECTOR.										
4.68	0.362	0.047	trace.....	slight trace.	ppt.....	trace.....				47804 Spirit vinegar.
5.61	0.140	0.030	"	"	"	"				47822 "
										*47838 Samples lost.
4.11	0.145	0.037	trace.....	trace.....	ppt.....	trace.....				47839 Spirit vinegar.
5.43	0.102	0.027	"	none.....	"	"				47841 "
3.26	0.264	0.070	"	"	very slight ppt.	"				47848 "

* Both samples broken in transit.

BULLETIN No. 235—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of opinion.)
				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF MANITOBA—

1911.								
Oct. 24	Vinegar...	47418	The Blackwood, Ltd., Winnipeg.	1 qt.	Nit.	Vendors.....		Proof—White wine.
" 24	" ..	48420	The Dyson Co., Winnipeg.	1 "	" "	"		White wine spirits.
" 26	" ..	47427	B. J. Wray, Winnipeg.	1 "	" "	"		White wine proof.

DISTRICT OF CALGARY—

Nov. 8	Vinegar...	44066	Lepage Bros., Medicine Hat.	1 qt.	15	Wilson, Lytle & Badgerow, Toronto.		White wine....
" 8	" ..	44907	L. B. Cochrane, Medicine Hat.	1 "	15	"		" ..
" 9	" ..	44008	H. W. Ireland & Co., Med. Hat.	1 "	20	The Dyson Co., Winnipeg.		" ..
" 20	" ..	44010½	R. J. Frizzle, Calgary.	1 "	25	"		" ..
" 20	" ..	44012	Jenkins & Co., Calgary.	1 "	25	Georgeson & Co., Calgary.		" ..

DISTRICT OF NELSON—

Oct. 19	Vinegar...	48434	Trites Wood Co., Fernie, B.C.	3 bots.	15	Dyson & Co., Winnipeg.		Wine vinegar...
" 19	" ..	48443	Fernie Co-operative Store, Fernie, B.C.	3 "	15	Imperial Vinegar Co., Hamilton.		" ..
" 27	" ..	48458	Hunter Bros., Rossland, B.C.	24 oz.	15	Wilson, Lytle & Badgerow, Toronto.		" ..

DISTRICT OF VICTORIA—

Nov. 9	Vinegar..	47636	Wm. B. Hall, Victoria.	1 qt.	25	R. J. Whitlock, Los Angeles, Cal.		Good Judgment Brand. Genuine Wine Vinegar.
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VINEGAR (WHITE WINE).

RESULTS OF ANALYSIS.							No. of Sample.	Remarks and Opinion of the Chief Analyst.	
Gms. per 100 cc.			Chlorides.	Sulphates.	Iodine test for fer- mented vinegar.	Formic Acid.			
Acidity as Acetic.	Solids.	Ash.				Mgms. in 100 cc.			Parts per 1000 of total acid.

A. C. LARIVIÈRE, INSPECTOR.

6.48	0.473	0.127	large.....	medium..	very slight ppt.....	39.5	6.10	47418	Made in part from acetic acid. Doubtful.
6.60	0.352	0.100	"	"	ppt.....	1.1	0.16	47420	Spirit vinegar.
6.63	0.137	0.080	"	"	slight ppt.	45.9	6.92	47427	Made from acetic acid adulterated.

R. W. FLETCHER, INSPECTOR.

5.85	0.148	0.023	slight trace.	trace.....	ppt.....			44006	Spirit vinegar.
10.74	0.401	0.038	" .. slight trace.	"	"			44007	" above vinegar strength.
10.56	0.532	0.167	large.....	medium..	"			44008	Spirit vinegar, above vinegar strength.
5.43	0.302	0.100	large amt.	trace.....	"			44010	Spirit vinegar.
3.96	0.318	0.044	medium..	medium..	"			44012	"

THOS. PARKER, INSPECTOR.

10.17	0.490	0.105	large amt.	small amt.	heavy ppt.	1.1	0.11	48434	Spirit vinegar, above vinegar strength.
8.85	0.225	0.031	trace.....	none.	" ..	1.4	0.16	48435	Spirit vinegar.
5.40	0.113	0.021	"	"	" ..			48458	"

D. O'SULLIVAN, INSPECTOR.

4.50	0.848	0.130	Trace....	Trace.				47636	Genuine wine vinegar.
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* Both samples broken in transit.

BULLETIN No. 235—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of opinion).
				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF NOVA SCOTIA—

1911.								
Oct. 27	Vinegar...	46724	Wentzels, Ltd., Halifax, N.S.	1½ qt.	6	Wilson, Lytle & Badgerow, Toronto.	Manufacturers	Sold as malt....
" 27	"	46725	E. W. Crease & Son, Halifax, N.S.	1½ "	9			"
Nov. 14	"	46727	De Wolfe & La- mont, Kent- ville, N.S.	1½ "	10	Wilson, Lytle & Badgerow, Toronto.	Manufacturers	Malt.....
" 17	"	46729	Jas. Scott & Co., Halifax, N.S.	1½ "	15	Robt. Burnett, London, Eng.	Manufacturer.	"

DISTRICT OF PRINCE EDWARD ISLAND—

Oct. 17	Vinegar...	46094	Beer & Goff, Ch. Town, P.E.I.	1 qt...	20		Carvell, Bros., Ch. Town, P. E.I.	Malt.....
" 21	"	46096	D. McKenzie & Co., Kensington, P.E.I.	1 "	15	McCready & Son, Ltd., St. John, N.B.		"
" 26	"	46099	A. Gates & Co., Ch. Town, P. E.I.	1 "	16	Furnell's, Bris- tol, Eng.		"

DISTRICT OF NEW BRUNSWICK—

Oct. 17	Vinegar...	45528	W. A. Fair- weather Co. Ltd., St. John.	1 qt...	10	Vendors.....		Malt....
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DISTRICT OF QUEBEC—

Oct. 12	Vinegar..	36983	Cantin et Frères, 271 rue St. Jo- seph, Québec.	1 qt....	20	Unknown. . .	Unknown.....	Malt.....
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DISTRICT OF ST. HYACINTHE—

Nov. 7	Vinegar...	1395	A. S. Johnson, Thetford Mines	1 bot..	25	Cosse & Black well, England.		Malt.....
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VINEGAR (MALT).

RESULTS OF ANALYSIS.										No. of Sample.	Remarks and Opinion of the Chief Analyst.
Gms. per 100cc.			Soluble Ash.	Alkalinity of solu- ble ash ccs. 10 acid per 100 cc.	Phosphates Mgns. P_2S_5 per 100cc.		Chlorides.	Sulphates.	Lead Acetate Ppt.		
Acidity as acetic.	Solids.	Ash.			Soluble.	Insoluble.					

R. J. WAUGH—INSPECTOR.

4.74	1.720	0.206	0.121	6.8	4.0	28.2	Medium	Trace...	Copious	46724	Genuine.—Solids & sol. P_2O_5 low.
4.59	2.514	0.300	0.204	10.4	17.0	28.4	"	" ..	"	46725	Genuine.
5.01	1.350	0.148	0.039	2.8	9.6	40.0	Trace...	" .	"	46727	Solids, ash, sol. ash, alkalinity are low. Doubtful.
5.25	2.993	0.363	0.219	0.8	trace	59.0	Medium	Large ..	"	46729	Genuine. Alkalinity & sol. P_2O_5 low.

WM. A. WEEKS—INSPECTOR.

5.04	3.180	0.370	0.218	1.4	none	65.0	Medium	Large ..	Copious	46094	Genuine—Alkalinity & sol. P_2O_5 low.
4.71	0.675	0.040	0.023	1.4	2.0	8.0	Trace...	Trace...	Slight...	46096	Imitation malt vinegar.
4.74	2.546	0.246	0.156	9.6	23.2	28.4	Medium	Medium	Copious	46099	Genuine.

J. C. FERGUSON—INSPECTOR.

4.98	2.165	0.135	0.087	3.6	12.0	29.6	Medium	Trace...	Medium	45528	Ash, soluble ash & alkalinity low. Doubtful.
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F. X. W. E. BELAND—INSPECTOR.

2.04	3.490	0.537	0.326	1.6	2.6	85.2	Medium	Lge amt	Copious	36983	Acidity alkalinity & soluble P_2O_5 low.
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J. C. ROULEAU—INSPECTOR.

5.58	2.058	0.320	0.201	9.8	31.2	46.8	Lge amt	Trace...	Medium	1395	Genuine; but each ppte. low.
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BULLETIN No. 235—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report (Is not an expression of opinion).
				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF OTTAWA—

1911.								
Oct. 13	Vinegar.	49023	A. Parkinson & Son, Kemptville.	1 qt.	13	Wilson, Lytle & Badgerow, Toronto.		Malt vinegar....
" 21	"	49026	D. A. Younghus-band, Ottawa.	1 "	15	Purnella, Bristol, Eng.		"
" 25	"	49028	H. Armstrong, Bank St., Ottawa.	1 "	20		F. J. Castle Co., Ltd., Ottawa	"
" 26	"	49029	Goodall Bros., Ottawa.	1 "	20	Hollrooks, Ltd., London, Eng.		"

DISTRICT OF TORONTO—

Oct. 19	Vinegar.	47358	The Wilson, Lytle Badgerow Co. Ltd., Toronto.	1 qt.	15	Vendors.....		Guaranteed absolutely pure Malt Vinegar. Brewed from pure barley malt. Made from malt alone.
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DISTRICT OF LONDON—

Oct. 18	Vinegar.	47833	R. T. Moran, Leamington.	1 qt.	20	Holbrook Ltd., London, Eng..		Pure Malt Vinegar.
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DISTRICT OF MANITOBA—

Oct. 18	Vinegar.	47423	Western Mercantile Co., Ltd., Winnipeg.	1 qt.	5	Unknown	Manufacturers	XXX Brown Vinegar.
" 26	"	47425	H. Logrenia, Winnipeg.	1 "	10	The Dyson Co., Winnipeg.	"	XXX Spirits Malt.
" 26	"	47426	W. H. Wright, Winnipeg.	1 "	5	The Blackwood, Ltd., Winnipeg	"	XXX Malt Vinegar.

VINEGAR (MALT.)

RESULTS OF ANALYSIS											Remarks and Opinion of the Chief Analyst.
Gms. per 100cc.			Soluble ash.	Alkalinity of solu- ble ash calc. N. 10 acid for 100 cc.	Phosphates Mgma. P ₂ O ₅ per 100 cc.		Chlorides.	Sulphates.	Lead acetate Ppt.	No. of Sample.	
Acidity as acetic.	Solids.	Ash.			Soluble.	Insoluble.					

J. A. RICKEY—INSPECTOR.

4.23	1.530	0.215	0.119	2.8	10.8	58.0	Medium	Trace...	Copious	49023	Genuine. Solids & alkalinity are low.
7.14	2.465	0.350	0.233	4.2	9.6	36.2	Lge acc.	" "	"	49026	Genuine.
5.79	1.318	0.148	0.083	1.6	4.2	23.0	Medium	" "	Medium	49028	Solids, ash, soluble ash, alkalinity & soluble P_2O_5 low. Doubtful.
5.34	2.786	0.324	0.197	1.0	1.6	51.4	"	Lge amt	Copious	49029	Genuine, but alkalinity & soluble P_2O_5 are low.

H. J. DAGER, INSPECTOR.

4.83	1.440	0.194	0.124	1.8	2.0	29.2	Small amount.	Medium	Medium	47358	Solids, soluble ash, alkalinity and soluble P_2O_5 low; lead precipitate low. Doubtful.
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JNO. TALBOT, INSPECTOR.

5.43	2.900	0.378	0.226	1.2	1.8	62.8	Small amount.	Large amount.	Copious.	47633	Genuine, but alkalinity and soluble P_2O_5 low.
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A. C. LARIVIERE, INSPECTOR.

2.82	0.708	0.115	0.096	1.8	None.	Trace.	Small.	Trace.	Trace.	47423	Imitation malt vinegar.
5.16	0.515	0.130	0.110	2.4	"	2.0	Medium.	"	None.	47425	" "
3.21	0.716	0.106	0.088	1.6	"	Trace.	Small.	"	"	47426	" "

BULLETIN No. 235

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of opinion.)
				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF CALGARY—

1911.								
Nov.	9	Vinegar.	44009 Spencer & Todd, Medicine Hat.	1 qt.	15	Wilson, Lytle & Badgerow, Toronto.		Malt.
"	9	"	44010 Hewitt & Armstrong, Medicine Hat.	1 "	15	Holbrook & Co., London, Eng.		"
"	20	"	44011 C. Bradley, Calgary.	1 "	25	Lytle & Badgerow, Toronto.		"
"	20	"	44013 Summers & Comfoot, Calgary.	1 "	25	Wilson, Lytle & Badgerow, Toronto.		"
"	20	"	44014 A. E. Green, Calgary.	1 "	25	The Dyson Co., Winnipeg.		"

DISTRICT OF NELSON—

Oct.	19	Vinegar.	48430 Crow's Nest Trading Co., Fernie, B.C.	3 bots.	15	White Star Mfg Co., Winnipeg.		Malt Vinegar.
"	19	"	48433 Trites Wood Co., Fernie, B.C.	3 "	15	Dyson & Co., Winnipeg.		"
"	19	"	48444 Fernie Co-operative Store, Fernie, B.C.	3 "	15	"		"
"	27	"	48453 Union Co-operative Association, Rossland, B.C.	24 oz.	15	Wilson, Lytle & Badgerow, Toronto.		"
"	27	"	48459 Hunter Bros., Rossland, B.C.	24 "	15	"		"
"	28	"	48480 A. S. Horswill, Nelson, B.C.	24 "	15	A. Macdonald & Co., Winnipeg.		"

DISTRICT OF VANCOUVER—

Oct.	18	Vinegar.	38215 David Spencer, Vancouver	1 qt.	15	W. K. Houston, Victoria.		Labelled Malt Vinegar absolutely pure.
"	18	"	38216 H. A. Edgett, Hastings St., Vancouver.	1 "	25	Grimble Co., London, Eng.		Malt Vinegar...
"	18	"	38217 Foran Bros, Carrall St., Vancouver.	1 "	25	Fardons Ltd., Birmingham, Eng.		Malt Vinegar unsurpassed for purity and flavour.
"	18	"	38218 F. Filion, Carrall St., Vancouver	1 "	25	Crosse & Blackwell, London, Eng.		Made from Malt and free from all mineral acids.

VINEGAR (MALT).

RESULTS OF ANALYSIS.

Gms. per 100cc.			Soluble Ash.	Alkalinity of solu- ble ash conc. as acid per 100cc.	Phosphates Mgms. P_2O_5 per 100cc.		Chlorides.	Sulphates.	Lead Acetate Ppt.	No. of Sample.	Remarks and Opinion of the Chief Analyst.
Acidity as acetic.	Solids.	Ash.			Soluble.	Insoluble.					
10.35	0.756	0.044	0.016	3.7	Trace.	2.0	None.	None.	None.	44009	Imitation malt vin- egar. Acidity very high.
4.95	2.722	0.304	0.188	1.4	2.0	55.2	Trace.	Medium	Copious.	44010	Genuine, but alkali- nity and soluble P_2O_5 are low.
9.06	0.665	0.027	0.013	2.6	None.	4.0	None.	None.	None.	44011	Imitation malt vin- egar. Acidity high.
10.06	0.916	0.040	0.022	4.0	"	3.2	"	"	"	44012	" "
11.70	0.578	0.044	0.027	3.0	"	3.8	Slight trace.	Slight trace.	"	44014	" "

W. FLETCHER, INSPECTOR.

THOS. PARKER, INSPECTOR.

10.80	0.650	0.042	0.032	3.2	None.	2.2	Slight trace.	None.	None.	48430	Imitation malt vin- egar. Acidity high.
9.90	0.756	0.120	0.005	2.2	"	4.6	Medium	Trace.	Slight.	48433	" "
10.71	1.490	0.135	0.101	3.2	"	4.2	"	"	Trace.	48444	" "
9.09	0.878	0.074	0.061	5.6	"	3.2	Small.	None.	None.	48453	" "
5.16	0.472	0.065	0.031	3.0	"	2.4	Trace.	"	"	48459	Imitation malt vin- egar.
8.82	0.760	0.108	0.085	3.0	"	1.8	Medium	Trace.	"	48480	Imitation malt vin- egar. Acidity high.

J. F. POWER—INSPECTOR.

1.50	0.310	0.014	0.010	1.0	none.	trace.	Slight trace.	None...	None...	38215	Imitation malt vine- gar.
1.92	2.100	0.346	0.304	2.4	"	40.8	Large..	Large..	Copious	38216	Genuine. Alkalinity and soluble P_2O_5 low.
5.19	3.020	0.326	0.186	6.4	26.1	55.6	"	Medium	"	38217	Genuine.
5.76	1.712	0.286	0.160	10.0	31.6	48.0	"	"	"	38218	Genuine. Solids low.

BULLETIN No. 235—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.		Inspector's Report. (Is not an expression of opinion.)
				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF VANCOUVER—

1911.								
Oct.	19	Vinegar.	38221 A. & C. Grocery, Granville St., Vancouver.	1 qt.	25	Holbrook & Co., London, Eng.		Malt Vinegar. Purity and Excellence guaranteed.
"	19	"	38222 London Grocery Co., City Bch Vancouver.	1 "	15	Pendray & Co., Victoria, B.C.		Labelled English Malt Vinegar. A pure and healthful article for the table
"	10	"	38223 H. H. Owens, Granville St., Vancouver.	1 "	25	White Cottells, London, Eng.		Malt Vinegar. This vinegar is absolutely pure.
"	19	"	38224 W. H. Walsh, Seymour and Davie, Van- couver.	1 "	20	Thos. W. Lipton, London, Eng.		Pure Malt Vinegar.

DISTRICT OF VICTORIA—

Oct.	25	Vinegar.	47631 Windsor Grocery Co., Victoria, B.C.	1 qt.	25	White Cottells & Co., Camberwell, London, Eng.		Malt Vinegar...
"	25	"	47632 "	"	25	Grimble & Co., Cumberland Market, London, Eng.		"
"	25	"	47633 The West End Grocery Co., Ltd., Victoria, B.C.	"	15		W. K. Houston & Co., Victoria, B.C.	"
"	26	"	47634 "	"	25	John Stephens Sons & Co., Gloucester, Eng.		"
Nov.	9	"	47635 Copas & Young, Victoria, B.C.	"	25	Purnell & Panter Ltd., Bristol, Eng.		"
"	13	"	47637 Erskine & Co., Victoria, B.C.	"	35	H. J. Heinz, Pittsburg, P.		Pure Malt Vinegar.
"	15	"	47639 Dixie H. Ross & Co., Victoria, B.C.	"	25	Crosse & Blackwell, London, Eng.		"
"	15	"	47649 Harrison and McDonald, Victoria, B.C.	"	25	Holbrook & Co., London, Eng.		"

VINEGAR (MALT).

RESULTS OF ANALYSIS.										No. of Sample.	Remarks and Opinion of the Chief Analyst.
Gms. per 100cc.			Soluble Ash.	Alkalinity of solu- ble ash est. in acid per 100cc.	Phosphates Mgms. P_2O_5 per 100cc.		Chlorides.	Sulphates.	Lead Acetate Ppt.		
Acidity as acetic.	Solids.	Ash.			Soluble.	Insoluble.					

J. F. POWER, INSPECTOR—Concluded.

5.58	3.406	0.376	0.227	1.2	trace.	61.2	Medium	Large	None	38221	Genuine. Alkalinity and soluble P_2O_5 low.
3.93	0.518	0.017	0.010	1.0	none.	about 2.0	Trace	None	None	38222	Imitation malt vinegar.
5.46	1.748	0.405	0.261	6.2	8.0	46.0	Large	Medium	Copious	38223	Genuine. Solids low.
5.13	2.080	0.225	0.113	6.8	17.2	55.0	Medium	"	"	38224	Genuine.

D. O'SULLIVAN—INSPECTOR.

5.49	1.810	0.414	0.257	7.4	9.7	40.8	Large	Medium	Copious	47631	Genuine. Solids low.
4.62	2.322	0.342	0.208	1.0	none.	28.0	Medium	Large	"	47632	Genuine. Alkalinity and soluble P_2O_5 low.
4.86	0.345	0.020	0.015	1.6	"	trace.	None	None	None	47633	Imitation malt vinegar.
4.26	2.820	0.466	0.270	7.6	"	24.4	Large	Medium	Medium	47634	Genuine. Sol. P_2O_5 and lead Ppt low.
5.10	2.162	0.314	0.191	9.6	10.8	36.8	Medium	"	Copious	47635	Genuine.
5.16	2.322	0.252	0.104	5.8	18.1	54.0	"	"	"	47637	Genuine.
5.73	1.830	0.310	0.185	10.0	34.4	47.2	"	Trace	"	47639	Genuine. Solids low.
5.55	3.530	0.356	0.201	1.2	trace.	61.6	"	Medium	"	47640	Genuine. Alkalinity and soluble P_2O_5 low.

BULLETIN No. 235—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	COST.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report. (Is not an expression of opinion.)
				Quantity.	Cents.	Manufacturer.	Furnisher.	
DISTRICT OF NOVA SCOTIA—								
1911.								
Oct. 25	Vinegar...	46722	Nat. Drug & Chem. Co., Halifax, N.S.	1½ pt..	15	Vendors.....		Sovereign Brand Cider Vinegar.
" 25	" ..	46723	J. Frank Crowe, Ltd., Halifax, N.S.	1½ " ..	8	Wilson, Lytle & Badgerow, Toronto.	Manufacturers	Sold as cider....
Nov. 15	" ..	46728	Annapolis Valley Vinegar Co., Bridge town, N.S.	1½ " ..	Nil.	Vendors.....		Cider.....
DISTRICT OF PRINCE EDWARD ISLAND—								
Oct. 17	Vinegar...	46093	S. Sanderson & Co., Charlotte- town, P.E.I.	1 qt..	10	Standard Vine- gar Co., Ber- wick, N.S.		Cider.....
DISTRICT OF NEW BRUNSWICK—								
Oct. 17	Vinegar...	45526	Geo. A. Troop & Co., St. John, N.B.	1 qt..	10	Vendors.....		Apple Cider Vin- egar.
" 17	" ..	45529	W. A. Fairwea- ther Co., Ltd., St. John, N.B.	1 " ..	10	" ..		" "
Nov. 7	" ..	45531	John McKnight, F re d e r i c t o n, N.B.	1 " ..	10	M. W. Graves & Co., Bridge- town, N.S.		"
" 8	" ..	45532	Woolverton & Gibson, Wood- stock, N.B.	1 " ..	10	Thos. McCready & Son, St. John, N.B.	Furnished by mfrs. to ven- dors as xxxc.	Cider Vinegar ..
" 14	" ..	45533	King, Asbell & Co., Sussex, N. B.	1 " ..	5	M. W. Graves & Co., Bridge- town, N.S.		" " ..
" 15	" ..	45534	D. A. McBeath, Moncton, N.B.	1 " ..	10	Annapolis Val- ley Cyder Vine- gar Co., Brid- getown, N.S.		" " ..
DISTRICT OF ST. HYACINTHE—								
Oct. 26	Vinegar...	1384	Olmstead & Bo- right, Sutton.	1 pt..	5	Wilson, Lytle & Badgerow, To- ronto.		Cider Vinegar ..

VINEGAR (CIDER).

RESULTS OF ANALYSIS.													No. of Sample.	Remarks and opinion of the Chief Analyst.
Grms. per 100cc.			Soluble ash.	Alkalinity of soluble ash as acid per 100cc.	Phosphates Mgrs. P_2O_5 per 100cc.	Soluble.	Insoluble.	Chlorides.	Sulphates.	Lead acetate ppt.	Polarization.			
Acidity as Acetic.	Solids.	Ash.												

R. J. WAUGH—INSPECTOR.

4.26	0.670	0.092	0.075	10.8	Trace.	Trace.	Heavy trace.	None.	None.	None.	0.0	46722	Is not a true cider vinegar. Doubtful.
3.75	0.156	0.021	0.013	1.8	None.	None.	Slight trace.	Trace.	"	"	"	46723	" "
3.15	2.123	0.330	0.297	41.6	7.8	6.8	Trace.	"	"	Medium	-0.4	46728	Genuine cider vinegar.

WM. A. WEEKS—INSPECTOR.

4.95	2.286	0.374	0.342	46.8	9.6	6.4	Slight trace.	Slight trace.	Medium	-1.1	46093	Genuine cider vinegar.
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J. C. FERGUSON—INSPECTOR.

4.23	1.543	0.350	0.300	35.6	3.3	10.2	Trace.	Slight trace.	Copious	-0.9	45526	Genuine cider vinegar.
3.45	1.762	0.404	0.268	16.4	None.	11.2	Very large amount	Trace.	"	-1.4	45529	Alkalinity of ash too low. Doubtful.
5.13	1.546	0.260	0.238	31.6	6.8	7.6	Trace.	Slight trace.	Medium	-0.7	45531	Genuine cider vinegar.
4.59	0.102	0.006	None.	0.6	None.	None.	Slight trace.	None.	None.	"	45532	Is not cider vinegar. Doubtful.
4.14	2.875	0.362	0.298	42.8	4.8	10.6	"	Slight trace.	Copious	0.0	45533	Genuine cider vinegar.
0.63	3.076	0.206	0.180	26.4	2.6	6.2	"	"	Very copious	"	45534	Is cider. Alcoholic and acetic fermentations going on.

J. C. ROULEAU—INSPECTOR.

5.82	2.170	0.250	0.193	24.8	2.0	14.4	Trace.	Slight trace.	Copious	-0.7	1394	Probably genuine. Phosphates and alkalinity low.
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BULLETIN No. 235—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.		Inspector's Report. (Is not and expression of opinion.)
				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF OTTAWA—

1911.								
Oct. 16	Vinegar...	49024	W. West, Almonte.	1 qt.	3	Annapolis Valley Cyder Co., Ltd., Bridge-town, N.S.		Cider Vinegar ..
" 25	" ..	49027	A. Moreland, Bank St., Ottawa.	1 "	15	M. W. Graves & Co., Bridge-town, N.S.	F. J. Castle, Ltd., Ottawa	" "
" 27	" ..	49030	R. E. Powell, Wellington St., Ottawa.	1 "	10	S. A. Allen, Norwich, Ont.		" "

DISTRICT OF TORONTO—

Oct. 24	Vinegar ..	47361	C. W. Fox, Owen Sound.	1 qt.	10		Taylor & Pringle, Owen Sound.	XXX Cider Vinegar.
" 26	" ..	47362	G. Dyce & Co., Meaford.	"	10		The Dominion Vinegar Co., Ltd., Hamilton.	" ..
Nov. 2	" ..	47363	The Whitby Fruit & Vinegar Co., Whitby.	"	10	Vendors ..		" ..
" 3	" ..	47364	The Stouffville Cider & Vinegar Co. Ltd., Stouffville.	"	10	" ..		" ..

DISTRICT OF LONDON—

Oct. 16	Vinegar ..	47806	Moylan & Moylan, St. Thomas.	1 qt.	5	Belleville Fruit & Vinegar Co., Belleville.		Cider Vinegar..
" 16	" ..	47809	E. J. Witheford, St. Thomas.	"	5	Unknown.		" ..
" 17	" ..	47814	J. Caron, Ridgeway, Ont.	"	10		Masuret & Co., London.	" ..
" 19	" ..	47843	A. Detwiler, Essex.	"	8		J. F. Smith & Co., Windsor.	" ..

DISTRICT OF NELSON

Oct. 27	Vinegar ..	48460	Hunter Bros., Rossland.	24 oz.	15	Wilson Lytle & Badgerow, Toronto.		Cider Vinegar..
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VINEGAR (CIDER.)

RESULTS OF ANALYSIS.											No. of Sample.	Remarks, and opinion of the Chief Analyst.
Grms. per 100 cc.			Soluble Ash.	Alkalinity of soluble Ash cc. to acid per 100 cc.	Phosphates Mgms. P_2O_5 per 100 cc.		Chlorides.	Sulphates.	Lead Acetate Ppt.	Polarisation.		
Acidity as acetic.	Solids.	Ash.			Soluble.	Insoluble.						

J. A. RICKEY—INSPECTOR.												
3.57	1.660	0.320	0.290	37.2	6.4	7.6	Trace.	None.	Medium	-0.8	49024	Genuine cider vinegar.
4.20	1.824	0.332	0.298	41.6	6.2	8.8	"	Trace.	"	-0.9	49027	" "
5.25	2.250	0.240	0.196	23.6	5.6	2.0	"	"	"	-2.3	49030	Probably genuine, but alkalinity and phosphoric acid are low.

H. J. DAGER—INSPECTOR.

5.34	0.925	0.116	0.061	4.8	None.	9.8	heavy trace.	Trace.	Medium	0.0	47361	Is not cider vinegar. Doubtful.
5.13	0.310	0.043	0.029	1.6	"	11.8	None.	Slight trace.	None	...	47362	Is not cider vinegar. Doubtful.
4.50	2.667	0.330	0.280	39.2	6.6	10.6	Slight trace.	"	Copious	-1.5	47363	Genuine cider vinegar.
4.89	0.946	0.122	0.072	8.0	None.	7.6	Trace.	Trace.	None	-0.4	47364	Is not cider vinegar. Doubtful.

JNO. TALBOT—INSPECTOR.

5.25	1.524	0.286	0.198	19.6	None.	16.0	Large amt.	Slight trace.	Medium	-1.4	47806	Doubtful. Phosphates and alkalinity too low.
2.91	0.332	0.075	0.048	6.0	"	2.0	Slight trace.	"	None	...	47809	Is not cider vinegar. Doubtful.
4.00	0.462	0.070	0.047	5.6	Trace.	2.8	"	"	"	...	47814	" "
4.05	0.350	0.050	0.030	4.4	"	3.0	"	None.	"	...	47843	" "

THOS. PARKER—INSPECTOR.

5.23	0.476	0.048	0.019	3.2	None.	2.4	Slight trace.	None.	None	...	0.8	48460	Is not cider vinegar. Doubtful.
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BULLETIN No. 235—VINEGAR NOT SOLD

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	COST.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report (Is not an expression of opinion).
				Quantity.	Cents.	Manufacturer.	Furnisher.	
DISTRICT OF QUEBEC—								
1911.								
Oct. 16	Vinegar...	36987	E. Grégoire, 128 Rue du Pont, Quebec.	1 qt.	15	Drouin & Frère & Rattray.	Manufacturers	
" 17	" ..	33988	W. Cantin, 133 Rue du Pont, Quebec.	1 "	20	Unknown	J. C. Letourneau.	
DISTRICT OF ST. HYACINTHE								
Oct. 25	Vinegar...	1391	J. Dagenais et Cie, Farnham.	1 pt.	5	E. de la Bruyere, et Cie, Bordeaux.		
Nov. 8	" ..	1396	E. Huard et Cie, Megantic.	1 "	5	Eureka Vinegar Works, Quebec		Proof. Uncoloured.
" 9	" ..	1397	Art. Leclair, North Coaticook.	1 "			D. S. Bachand, Coaticook.	
" 23	" ..	1399	Victor Cabana, St. Hyacinthe.	1 "	5	St. Hyacinthe Dist. Co.		Proof.
DISTRICT OF MONTREAL—								
Oct. 24	Vinegar ..	40907	D. Etu, St. Agathe de Mont., P.Q.	1 qt.	15		Hudon, Hebert et Cie, Ltd.	
" 17	" ..	40908	L. M. Lefebvre, 393 Rachel St. E., Montreal.	1 "	15			Bolmans. Imported.
" 17	" ..	40909	J. Niding, 54 Rachel St. E., Montreal.	1 "	12			
" 17	" ..	40911	Dubois & Marcil, 391 Roy St., Montreal.	1 "	15		Laporte, Martin et Cie, Ltd.	
" 27	" ..	40912	L. A. Chartier, Joliette, P.Q.	1 "	10			
" ..	" ..	40913	J. E. Hebert, Beauharnois, P.Q.	1 pt.	13			
" ..	" ..	40914	O. Marchand, Beauharnois, P.Q.	1 "	10		L. Chaput Fils & Co., Ltd.	
" ..	" ..	40915	J. A. Faubert, Beauharnois, P.Q.	1 "	15	Heinz		
DISTRICT OF MANITOBA—								
		47421	Mikush & Bierbaumer, Winnipeg.	1 qt.	10	Unknown	Unknown	
		47324	A. J. Kemball, Winnipeg.	1 "	10	"	"	

AS WINE, MALT OR CIDER VINEGARS.

RESULTS OF ANALYSIS.										No. of Sample.	Remarks and opinion of the Chief Analyst.
Grams per 100 cc.			Chlorides.	Sulphates.	Iodine test for fermented vinegar.	Formic Acid.		Parts per 1000 of total acid.			
Acidity as acetic.	Solids.	Ash.				Mgms. in 100 cc.					
F. X. W. E. BELAND—INSPECTOR.											
7.56	0.308	0.050	heavy trace.	none. ....	.....	2.6	0.35	36987	Spirit vinegar, possibly fortified by acetic acid. Doubtful.	
5.01	0.415	0.018	trace.....	" .....	.....	0.5	0.10	36988	Spirit vinegar.	
J. C. ROULEAU, INSPECTEUR.											
4.98	0.139	0.014	trace.	slight trace.	ppt., .....	.....	.....	1391	Spirit vinegar.
7.38	0.177	0.039	"	none. ....	" .....	.....	.....	1396	"
4.17	0.175	0.035	slight trace.	slight trace.	"	none. ....	.....	1397	"	
6.72	1.028	0.042	"	none. ....	" .....	.....	.....	1399	"
J. J. COSTIGAN, INSPECTOR.											
4.56	0.117	0.046	trace.....	none.	ppt. ....	.....	.....	40907	Spirit vinegar.
4.16	0.131	0.030	none.	trace.....	very slight ppt.	4.4	1.06	40908	Spirit vinegar, fortified by acetic acid. Doubtful.		
5.10	0.122	0.030	trace.....	"	ppt.	trace.....	.....	40909	Spirit vinegar.	
5.28	0.025	0.015	none.	none.	clear.	31.6	5.98	40911	Made from acetic acid. Adulterated.		
6.12	0.197	0.029	trace.....	trace.....	ppt. ....	.....	.....	40912	Spirit vinegar.
4.98	0.170	0.031	heavy trace.	slight trace.	" .....	.....	.....	40913	"
7.53	0.160	0.018	trace.....	none.	slight ppt.	0	0.80	40914	Spirit vinegar, fortified by acetic acid. Doubtful.		
4.65	0.186	0.035	"	trace.....	" .....	.....	.....	40915	Spirit vinegar.
A. C. LARIVIÈRE, INSPECTOR.											
5.64	0.314	0.122	large.....	medium ..	ppt.	0.7	0.13	47421	Spirit vinegar.		
5.58	0.300	0.094	"	"	"	0.8	0.15	47424	"		

BULLETIN No. 235—VINEGAR NOT SOLD

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.		Inspector's Report (Is not an expression of opinion).
				Quantity.	Cents.	Manufacturer.	Furnisher.	

DISTRICT OF VANCOUVER—

1911.		38219	Clark's Grocery, 1 qt., Carrall St., Vancouver.	15	B. C. Distillery Co., Vanc.	.....	Special Canadian Vinegar.
		38220	B. C. Vinegar Works, Powell St., Vancouver	25	Vendors.....	.....	Is guaranteed pure and free from all mineral acids.

DISTRICT OF VICTORIA—

		47638	F. E. Plummer, 1 qt., Victoria.	15	B. C. Vinegar Works, Vanc.	Sunset Brand. Pure vinegar.
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Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF MANITOBA—

1911.							
Oct. 21	Vinegar.....	47419	The White Star Mfg. Co., Winnipeg.	1 qt.	Nil.	Unknown	.....
" 25	"	47422	Moffett & Douglas, Winnipeg.	"	10	"	Unknown

AS WINE, MALT OR CIDER VINEGARS.—*Concluded.*

RESULTS OF ANALYSIS.							No. of Sample.	Remarks and opinion of the Chief Analyst.
Grams per 100 cc.			Chlorides.	Sulphates.	Iodine test for fermented vinegar.	Formic Acid.		
Acidity as acetic.	Solids.	Ash.				Mgms. in 100 cc.	Parts per 1000 of total acid.	

J. F. POWER, INSPECTOR.

4.41	0.184	0.008	none.	none.	ppt.	trace.		38219	Spirit vinegar.
10.25	0.155	0.007	"	"	"			38220	" above vinegar strength.

D. O. SULLIVAN, INSPECTOR.

5.04	0.362	0.028	none.	slight trace.	ppt.			47638	Spirit vinegar.
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RESULTS OF ANALYSIS.										No. of Sample.	Remarks and Opinion of the Chief Analyst.
Gms. per 100cc.			Soluble Ash.	Alkalinity of soluble ash cc. N 10 acid per 100 cc.	Phosphates Mgms. P ₂ O ₅ per 100 cc.		Chlorides.	Sulphates.	Lead acetate ppt.		
Acidity as acetic.	Solids.	Ash.			Soluble.	Insoluble.					

A. C. LARIVIERE, INSPECTOR.

p.c.	p.c.	p.c.									
11.94	0.690	0.048	0.038	2.4	Trace.	2.8	Slight trace.	Slight trace.	None.	47419	Imitation malt vinegar. Above vinegar strength. Doubtful.
3.18	0.758	0.114	0.091	1.2	None.	Trace.	Medium.	Medium.	Trace.	47422	Imitation malt vinegar. Doubtful.